

CLAIMS

1. A medical imaging apparatus, comprising:

a first imaging device for obtaining one or more tomographic images of a subject patient, wherein at least a portion of the first imaging device has a bore through which a patient axially translates during formation of one or more images by the device;

a second imaging device for obtaining one or more tomographic images of the subject patient, wherein at least a portion of the second imaging device has a bore through which a patient axially translates during formation of the images by the device;

the first and second imaging devices, each secured by a housing in a fixed position relative to the other during the formation of one or more images of the subject patient, wherein the bore of each device is substantially aligned axially with the bore of the other; and

the bores of the first and second imaging devices are spaced apart by a distance sufficient to allow direct access by a caregiver to a subject patient, positioned between the first and second imaging devices.

2. An imaging apparatus having an imaging axis, comprising:

a first imaging device for obtaining one or more images of a patient, wherein the patient is substantially aligned with the imaging axis;

a second imaging device for obtaining one or more images of a patient, wherein the patient is substantially aligned with the imaging axis;

the first and second imaging devices, each being held in positions fixed relative to each other and relative to the imaging axis; and

an opening formed between the first and second imaging devices through which a caregiver can have line-of-sight visual contact with a patient that is aligned with the imaging axis and extends between the first and second imaging devices.

3. A medical imaging apparatus, comprising:

a first tomographic medical imaging device having an opening for receipt of a subject patient;

a second tomographic medical imaging device having an opening for receipt of the subject patient;

an imaging device support structure securing the openings of the first and second imaging devices in a fixed spatial relationship and in alignment with an imaging axis during the formation of one or more tomographic images, by at least one of the imaging devices, of the subject patient;

a patient support structure extending through the openings of the first and second imaging devices during the formation of one or more images by at least one of the imaging devices; and

the imaging device support structure forming a patient access area between the first and second imaging devices through which a caregiver can directly observe the subject patient between the openings of the first and second imaging devices.

4. The medical imaging apparatus of Claim 3, wherein the patient access area allows direct tactile contact between a caregiver and the subject patient.

5. The medical imaging apparatus of Claim 3, wherein the patient access area allows a caregiver to perform one or more interventional applications on the subject patient between the first and second imaging devices.

6. The medical imaging apparatus of Claim 5, wherein the patient access area allows a caregiver to perform at least a portion of a biopsy procedure on the subject patient.

7. The medical imaging apparatus of Claim 3, wherein the first imaging device comprises one of a group consisting of CT, MRI, X-Ray, and Ultrasound devices.

8. The medical imaging apparatus of Claim 3 or 7, wherein the second imaging device comprises one of a group consisting of SPECT and PET devices.

9. The medical imaging apparatus of Claim 3, wherein the axes of openings of the first and second imaging devices are substantially aligned.

10. The medical imaging apparatus of Claim 3, wherein the imaging device's support structure further comprises a fluid control surface positioned beneath the patient support structure and between the first and second imaging devices for directing liquids falling onto the surface from the vicinity of the patient support structure away from the subject patient.

11. A medical imaging apparatus, comprising:  
a housing having a first scanner and a second scanner, each scanner having a bore for obtaining tomographic imaging information from at least a portion of a patient;  
the housing positioning each of the first and second scanner bores in fixed positions apart from the other during scanning operations; and  
the housing forming a patient access area between the first and second scanners bores to allow direct access by a caregiver to a patient extending through the first scanner bore and at least partially positioned between the first and second scanners.

12. The medical imaging apparatus of Claim 11, wherein the bores of the first and second scanners have axes that are substantially aligned.

13. The medical imaging apparatus of Claim 11, further comprising a patient support means for supporting and positioning first and second portions of a patient simultaneously within the bores of the first and second scanners, respectively, and for supporting and positioning a third portion of the patient between the bores and accessible to a caregiver through the patient access area.

14. The medical imaging apparatus of Claim 11, wherein the first and second scanners are adapted to operate in different modalities with respect to each other.

15. The medical imaging apparatus of Claim 14, wherein one of the first and second scanners is adapted to obtain imaging information representing anatomical structures of the patient.

5 16. The medical imaging apparatus of Claim 14 or 15, wherein one of the first and second scanners is adapted to obtain imaging information representing physiologic functions of the patient.

10 17. A medical imaging method, comprising:  
providing a housing having a first scanner and a second scanner, each scanner having a bore for obtaining tomographic imaging information from at least a portion of a patient;  
positioning each of the first and second scanner bores in fixed positions apart from the other during scanning operations;  
forming a patient access area between the first and second scanners bores to allow  
15 direct access by a caregiver to a patient extending through the first scanner bore and at least partially positioned between the first and second scanners; and  
positioning a portion of a patient between the first and second scanner bores to allow direct access to the patient by a caregiver through the patient access area formed between the first and second scanners.

20 18. The medical imaging method of Claim 17, further comprising operating the first and second scanners in different modalities with respect to each other to obtain imaging information from the patient.

25 19. The medical imaging method of Claim 18, further comprising operating one of the first and second scanners in a modality obtaining imaging information representing anatomical structures of the patient.

20. The medical imaging method of Claim 18, further comprising operating one of the first and second scanners in a modality obtaining imaging information representing anatomical structures of the patient.

5 21. The medical imaging apparatus of Claim 19 or 20, further comprising operating one of the first and second scanners in a modality obtaining imaging information representing physiologic functions of the patient.

22. A medical imaging apparatus, comprising:  
10 a first scanning device for obtaining imaging information from a patient when the patient is disposed in a scanning position;  
a drainage surface disposed below at least a portion of a patient, when the patient is in the scanning position; and  
the drainage surface sloping downwardly and away from the patient, to drain fluids  
15 falling to the surface from the vicinity of the patient, when the patient is in the scanning position.

23. The medical imaging apparatus of Claim 22, further comprising:  
a housing for supporting the first scanning device; and  
20 the drainage surface formed by the housing and extending laterally away from the first scanning device.

24. The medical imaging apparatus of Claim 22, wherein the drainage surface extends outwardly and downwardly from opposite sides of a patient, when the patient is in  
25 the scanning position.

25. The medical imaging apparatus of Claim 24, wherein the drainage surface comprises a upwardly arced surface immediately below a patient, when the patient is in the scanning position.

26. The medical imaging apparatus of Claim 22, further comprising a second scanning device; and

wherein the drainage surface extends between and separates the first and second scanning devices to form an access area for a caregiver to access a patient disposed in the scanning position.

27. The medical imaging apparatus of Claim 26, further comprising a housing supporting the first and second scanning devices and forming at least a portion of the drainage surface area between the first and second scanning devices.

28. The medical imaging apparatus of Claim 27, wherein the drainage surface extends outwardly and downwardly from opposite sides of a patient, when the patient is in the scanning position.

29. The medical imaging apparatus of Claim 28, wherein the drainage surface comprises a upwardly arced surface immediately below a patient, when the patient is in the scanning position.